

REINFORCING EFFORT AND PROVIDING RECOGNITION

IDENTIFYING SIMILARITIES
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SUMMARIZING AND
NOTE TAKING

REINFORCING EFFORT AND
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Ian MacIntosh was a new student at Prairie Elementary School. It did not take him long to discover that even though the teachers and students seemed nice enough, the school was considered to be what they called a "low-performing school." They had low scores on the state tests, and everyone knew it because the results were published in the local newspaper. The test was given soon after Ian arrived and, like other students, he just wanted to get through it.

The next year, the school got a new principal, Ms. Heichman. Things began to change. Ian's teachers started telling stories of famous people who achieved their goals because they believed that if they tried hard enough, they could do anything. Even students were asked to give examples, and Ian told the story of his grandfather's belief that he could make his farm successful. Ian's teachers started giving students "E for Effort" certificates. Ian earned two in one week. It made him feel more confident and made him want to do better. His classmates all seemed a bit more confident, too, especially when the whole class received the principal's "E for Effort" award because the class beat their own previous class average on math quizzes, twice in one month. He was proud when the banner went up over the door—and he enjoyed the ice cream the room mothers had promised them if they hit their goal.

The best news came when the state test scores returned. The school was in the headlines as the school that had improved the most. Ian knew he and his schoolmates still had a long way to go, but he believed they could do it.

The approach used by Ian's principal exemplifies the third category of general instructional strategies. Unlike the others, it does not deal directly with enhancing or engaging the cognitive skills of students. Rather, this set of instructional techniques addresses students' atti-

tudes and beliefs. This category has been subdivided into two parts: reinforcing effort and providing recognition.

Research and Theory on Reinforcing Effort

It was probably psychologist Bernard Weiner (1972, 1983) who popularized the notion that a belief in effort ultimately pays off in terms of enhanced achievement. Research by Covington (1983) and Harter (1980) has also shown the effect of believing in the importance of effort. More specifically, this body of research demonstrates that people generally attribute success at any given task to one of four causes:

- ♦ Ability
- ♦ Effort
- ♦ Other people
- ♦ Luck

Three of these four beliefs ultimately inhibit achievement. On the surface, a belief in ability seems relatively useful—if you believe you have ability, you can tackle anything. Regardless of how much ability you think you have, however, there will inevitably be tasks for which you do not believe you have the requisite skill. In fact, Covington's research (1983, 1985) indicates that a belief on the part of students that they do not possess the necessary ability to succeed at a task might cause them to sabotage their own success. Belief that

other people are the primary cause of success also has drawbacks, particularly when an individual finds himself or herself alone. Belief in luck has obvious disadvantages—what if your luck runs out? Belief in effort is clearly the most useful attribution. If you believe that effort is the most important factor in achievement, you have a motivational tool that can apply to any situation.

Several researchers have attempted to synthesize the studies on the effects on student achievement of reinforcing effort. Figure 4.1 shows the results from some of those syntheses.

We have drawn two generalizations from the research on effort:

1. Not all students realize the importance of believing in effort. Although it might seem obvious to adults—particularly successful ones—that effort pays off in terms of enhanced achievement, not all students are aware of this. In fact, studies have demonstrated that some students are not aware of the fact that the effort they put into a task has a direct effect on their success relative to the task (see Seligman, 1990, 1994; Urdan, Midgley, & Anderman, 1998). The implication here is that teachers should explain and exemplify the “effort belief” to students.

2. Students can learn to change their beliefs to an emphasis on effort. Probably, one of the most promising aspects of the research on effort is that students can learn to operate from a belief that effort pays off even if they do not initially have this belief.

FIGURE 4.1
Research Results for Reinforcing Effort

Synthesis Study	No. of Effect Sizes (ESs)	Ave. ES	Percentile Gain
Schunk & Cox, 1986	3	.93	32
Stipek & Weisz, 1981 ^a	.98	.52	20
Hattie, Biggs, & Purdie, 1996 ^b	8	1.42	42
	2	.57	22
	2	2.14	48
Kumar, 1991	5	1.76	46

^a These studies also dealt with students' sense of control.
^b Multiple categories of effect sizes are listed for the Hattie et al. study because of the manner in which effect size was reported. Readers should consult that study for more details.

An interesting set of studies has shown that simply demonstrating that added effort will pay off in terms of enhanced achievement actually increases student achievement (see Craske, 1985; Wilson & Linville, 1982). In fact, one study (Van Overwalle & De Metsenaere, 1990) found that students who were taught about the relationship between effort and achievement increased their achievement more than students who were taught techniques for time management and comprehension of new material.

Classroom Practice in Reinforcing Effort

Teaching About Effort

The preceding generalizations, taken together, assert that students might not be aware of the importance of believing in

effort, but they can be taught. The remedy for this is for teachers to make sure that they explicitly teach and exemplify the connection between effort and achievement. For example, teachers might share personal examples of times that they succeeded by continuing to try even when success did not appear imminent. Teachers might also seek out and share examples of well-known athletes, educators, and political or social leaders who succeeded in large part simply because they didn't give up (e.g., Daniel "Rudy" Ruettinger, the Notre Dame student whose unwavering commitment to play on the university's football team was the subject of the inspiring movie *Rudy*). Examples might also be shared from stories that are familiar to students (e.g., *The Little Engine That Could*). Still another way to help students understand the value of effort is to ask them to recall personal examples of times that they succeeded pri-

marily because they didn't give up. The following example shows how a teacher reinforced the effort attribution in the context of the Olympic games.

For an entire week, the students in a high school general math class were given no math homework. Rather, their assignment each night was to watch the Winter Olympics, paying particular attention to the "up close and personal" stories about specific athletes. The students were to look for examples of ordinary people who achieved extraordinary things because they believed that sustained effort would lead to achievement of their goals. The first five minutes of each class period that week were used to let students discuss, in small groups and as a whole class, the stories they had heard and the different strategies that the athletes used to keep believing in themselves. By Monday of the next week, each student was to come

up with a way to remind themselves to keep trying when things got difficult in class.

Keeping Track of Effort and Achievement

The generalizations in this category suggest how important it is for students to understand the relationship between effort and achievement. Teaching *about* effort, as suggested previously, might work for some students, but others will need to see the connection between effort and achievement for themselves. A powerful way to help them make this connection is to ask students to periodically keep track of their effort and its relationship to achievement. This can be accomplished by presenting them with rubrics like those shown in Figure 4.2 (A and B).

FIGURE 4.2

Effort and Achievement Rubrics

Scale: 4 = excellent; 3 = good; 2 = needs improvement; 1 = unacceptable

A: Effort Rubric

- 4 I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident. I viewed difficulties that arose as opportunities to strengthen my understanding.
- 3 I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident.
- 2 I put some effort into the task, but I stopped working when difficulties arose.
- 1 I put very little effort into the task.

B: Achievement Rubric

- 4 I exceeded the objectives of the task or lesson.
- 3 I met the objectives of the task or lesson.
- 2 I met a few of the objectives of the task or lesson, but did not meet others.
- 1 I did not meet the objectives of the task or lesson.

FIGURE 4.3
Effort and Achievement Chart

Student	Assignment	Effort Rubric	Achievement Rubric
Fri., Oct. 22	Homework—5-paragraph essay re: <i>Animal Farm</i>	4	4
Wed., Oct. 27	In-class essay re: allegory	4	3
Thurs., Oct. 28	Pop quiz	3	3

Students might use these rubrics to keep track of their effort and achievement on a daily basis for a week. To do this, a teacher would have students record the relationship between their effort and achievement in a table like that in Figure 4.3.

In addition to charting the relationship between the two variables, students might be asked to identify what they learned from the experience. Reflecting on their experiences and then verbalizing what they learned can help students heighten their awareness of the power of effort. The following example describes how this technique was used in a particular class:

Jane Whitby was accustomed to being asked to keep a learning log in the back of her notebook. She dutifully compiled notes in her log book when asked to write about what she was learning and how well she had learned it. One day in March, a time when it was almost always difficult for her to be enthusiastic about school, her teacher gave the learning log a different spin. Students were each given a piece of graph paper and were shown how to create a line graph to chart their learning and their effort. The horizontal axis was to be labeled with the days of the week, spanning

two full weeks. The vertical axis was to represent percentages from 1 to 100. For two weeks, each day, students plotted the relationship between their level of effort (1–100 percent) and how they rated their level of learning (percent of what they could have learned). At the end of the two weeks, Jane and her classmates noticed that this graph actually motivated them; many admitted that when they felt like just “coasting,” the picture of the graph popped into their heads.

Research and Theory on Providing Recognition

“Providing Recognition,” as a category of instructional strategies, might be the most misunderstood of all those presented in this book. Another name for this category might have been “praise”—although that would be technically inaccurate. Still, another name for this category might have been “reward”—although that, too, would be technically inaccurate. For reasons explained subsequently, we prefer to use the term *recognition*. Figure 4.4 shows results from studies that have attempted to synthesize the research on recognition.

<p>FIGURE 4.4 Research Results for Providing Recognition</p>			
Synthesis Study	No. of Effect Sizes (ESs)	Ave. ES	Percentile Gain
Bloom, 1976	18	.78	28
Walberg, 1999	14	.16	6
Wilkinson, 1981	791	.16	7

Figure 4.4 doesn't paint a very flattering picture of the effectiveness of this activity, especially the finding in the Walberg (1999) and Wilkinson (1981) studies. But the studies summarized in the figure primarily addressed the use of *praise* as recognition. It is probably because of results like these that many educators believe that any form of recognition not only doesn't enhance student achievement, but decreases intrinsic motivation. Given the misunderstanding surrounding this area, we should briefly consider the history of the research on praise and reward as forms of recognition.

The first laboratory investigations of the effects of reward on intrinsic motivation were conducted by researcher Deci (1971). In the first experiment, 24 college students were randomly assigned to one of two groups. Both groups were assigned problems to solve. The experimental group was paid \$1 for each correctly answered problem. Students' "intrinsic" motivation for the task was measured by counting the number of times they engaged in the puzzle-solving task during their free time. Deci found that students in the group that

were paid, spent significantly less time on the puzzles during free time than did the experimental group. Deci commented:

If a person is engaged in some activity for reasons of intrinsic motivation and if he begins to receive the external reward, money, for performing the activity, the degree to which he is intrinsically motivated to perform the activity decreases (Deci, 1971, p. 108).

This finding was taken by some as evidence that rewards, in general, decrease intrinsic motivation (see Kohn, 1993). Another study commonly cited as evidence that rewards of all types diminish intrinsic motivation, is that conducted by researchers Lepper, Greene, and Nisbett (1973). Their study examined the effect of rewards on the intrinsic motivation of young children to draw. The reward for the experimental group was to be given a "good player" award if they drew pictures. Again, it was concluded that external reward decreased motivation.

Much of the research on teacher praise has also contributed to the perception that recognition decreases intrinsic motivation (for reviews see Brophy, 1981; Lepper,

1983; Morine-Dershimer, 1982). For example, it appears that praise given for accomplishing easy tasks can undermine achievement. Students commonly perceived it as undeserved; further, praise for accomplishing easy tasks might actually lower their perception of their ability (Morine-Dershimer).

It also seems that praise is commonly handed out unsystematically and unevenly by teachers. One study found that first-grade teachers praised only about 11 percent of students' correct responses (see Anderson, L., Evertson, & Brophy, 1979). Another study found that junior high school teachers praised only about 10 percent of students' correct responses (see Evertson, Anderson, Anderson, & Brophy, 1980). Researcher Jere Brophy (1981) summarized the guidelines for effective praise (see Figure 4.5).

If we were to take the preceding discussion at face value, it would be fairly easy to conclude that providing praise or rewards in any form not only doesn't enhance achievement, but it also is detrimental to motivation. However, a thorough review of the research provides a very different picture. There are three generalizations that can be extracted from the research.

1. Rewards do not necessarily have a negative effect on intrinsic motivation.

Those who have carefully analyzed all the research on rewards, commonly came to the conclusion that they do not necessarily decrease intrinsic motivation. For example,

in his review of the research on rewards, Mark Morgan (1984) concluded: "The central finding emerging from the present review is that rewards can have either undermining or enhancing effects depending on circumstance" (p. 25). Major meta-analyses conducted by Wiersma (1992) and by Cameron and Pierce (1994) have provided a strong research base for this conclusion. To illustrate, consider the findings reported in Figure 4.6 (see p. 57).

Figure 4.6 rather dramatically illustrates the fact that depending on how researchers measure intrinsic motivation, they can come up with different conclusions. Specifically, when intrinsic motivation is measured using students' *free-time* activity—whether they engage in the activity during time when they are not asked to—the results of 44 studies show a slightly negative effect on intrinsic motivation of $-.04$.

When intrinsic motivation is measured by examining student *attitudes* toward the activity, however, 39 studies indicate that rewards positively affect intrinsic motivation, and have an effect size of $.14$. Finally, when students' ability to perform the "rewarded" activity is examined, 11 studies indicate that rewards have a positive effect of $.34$. In short, the research indicates that rewards have a negative effect on intrinsic motivation "only when intrinsic motivation is operationalized as task behavior during a free time measure" (Wiersma, 1992, p. 101).

2. Reward is most effective when it is contingent on the attainment of some stan-

FIGURE 4.5
Guidelines for Effective Praise

Effective Praise ...	Ineffective Praise ...
<ol style="list-style-type: none"> 1. Is delivered contingently. 2. Specifies the particulars of the accomplishment. 3. Shows spontaneity, variety, and other signs of credibility; suggests clear attention to the students' accomplishments. 4. Rewards attainment of specified performance criteria (which can include effort criteria). 5. Provides information to students about their competence or the value of their accomplishments. 6. Orients students toward better appreciation of their own task-related behavior and thinking about problem solving. 7. Uses students' own prior accomplishments as the context for describing present accomplishments. 8. Is given in recognition of noteworthy effort or success at difficult (for <i>this student</i>) tasks. 9. Attributes success to effort and ability, implying that similar successes can be expected in the future. 10. Fosters endogenous attributions (students believe that they expend effort on the task because they enjoy the task and/or want to develop task-relevant skills). 11. Focuses students' attention on their own task-relevant behavior. 12. Fosters appreciation of, and desirable attributions about, task-relevant behavior after the process is completed. 	<ol style="list-style-type: none"> 1. Is delivered randomly or unsystematically. 2. Is restricted to global positive reactions. 3. Shows a bland uniformity that suggests a conditional response made with minimal attention. 4. Rewards mere participation, without consideration of performance, processes, or outcomes. 5. Provides no information at all or gives students no information about their status. 6. Orients students toward comparing themselves with others and thinking about competing. 7. Uses the accomplishments of peers as the context for describing students' present accomplishments. 8. Is given without regard to the effort expended or the meaning of the accomplishment. 9. Attributes success to ability alone or to external factors such as luck or low task difficulty. 10. Fosters exogenous attributions (students believe that they expend effort on the task for external reasons — to please the teacher, win a competition or reward, etc.). 11. Focuses students' attention on the teacher as an external authority who is manipulating them. 12. Intrudes into the ongoing process, distracting attention from task-relevant behavior.

Source: Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research*, 51, 5–32. Adapted by permission.

dard of performance. The meta-analyses by Wiersma (1992) and by Cameron and Pierce (1994) both provide strong support for the generalization that reward works fairly well when it is based on the attainment of some performance standards. In fact, nine separate studies in the Wiersma meta-analyses, considered as a group, indicate that the average effect size for reward

used in this way is .38. Findings similar to these led Cameron and Pierce to note:

Rewards can have a negative impact on intrinsic motivation when they are offered to people for engaging in a task without considering any standard of performance. In a classroom, this might occur if a teacher promised students tangible rewards simply for doing an activity. [However], this would not occur if the teacher used the same re-

FIGURE 4.6
Meta-analytic Results Supporting Rewards

Study	Measure Used to Assess Intrinsic Motivation	No. of Effect Sizes (ESs)	Average ES	Percentile Gain
Cameron & Pierce, 1994	Free time	44	-.04	-2
	Attitude	39	.14	6
Wiersma, 1992	Performance	11	.34	13

wards but made this contingent on successful completion of the problems. (p. 397)

Stated differently, rewarding students for simply performing a task does not enhance intrinsic motivation and might even decrease it. This is probably so because it conveys the message that students must be "paid off" to engage in the activity. Providing rewards for the successful attainment of specific performance goals, however, enhances intrinsic motivation.

3. Abstract symbolic recognition is more effective than tangible rewards. The final generalization about recognition is that, abstract, symbolic recognition is more effective than tangible rewards. This is an important distinction. Many of the studies that produced negative results for the use of rewards, used tangible rewards such as money and candy. We should first note that even these tangible rewards can have a positive effect on intrinsic motivation when they are used in accordance with Generalization 2—as contingent on the completion of some performance standard. The research

indicates, however, that the more abstract and symbolic forms of reward are, the more powerful they are. To illustrate, consider the findings in Figure 4.7, which are taken from the study by Cameron and Pierce (1994).

Notice that the use of verbal rewards has effect sizes of .42 and .45 on intrinsic motivation when motivation is measured by attitude and free time, respectively—verbal reward seems to work no matter how one measures intrinsic motivation. Tangible rewards, on the other hand, do not seem to work well as motivators, regardless of how motivation is measured. These powerful findings for verbal recognition led researchers Cameron and Pierce to note:

When praise and other forms of positive feedback are given and later removed, people continued to show interest in their work. In contrast to recent claims made by Kohn (1993, p. 55), verbal praise is an extrinsic motivator that positively alters attitude and behaviors (1994, p. 397).

Given the validity of the three generalizations above, it appears obvious that abstract

FIGURE 4.7
Influence of Abstract Versus Tangible Rewards

Type of Reward	No. of Effect Sizes (ESs)	Ave. ES	Percentile Gain
Verbal on attitude	15	.42	16
Verbal on free time	15	.45	17
Tangible on attitude	37	.04	2
Tangible on free time	51	-.20	-8

*Computed from data in Cameron and Pierce, 1994.

rewards—particularly praise—when given for accomplishing specific performance goals, can be a powerful motivator for students. Given the lack of understanding of the effects of these types of rewards and the negative opinion some educators have adopted toward them, we believe that the best way to think of abstract contingency-based rewards is as “recognition”—recognition for specific accomplishments. This is why we have entitled this section “recognition” as opposed to “reward” or “praise.”

Classroom Practice in Providing Recognition

Personalizing Recognition

When recognizing the accomplishment of a performance standard as articulated in Generalization 2, it is best to make this recognition as personal to the students as possible. The following example describes the efforts of a group of teachers to estab-

lish school routines that result in personalizing recognition for students.

At a high school faculty meeting, teachers were engaged in a lively conversation about grading practices. Some teachers made the case that a significant number of students were making major improvements in their academic work, but might never make the honor role. Although some teachers argued that “that’s the way real life is,” others countered by reiterating the mission of the school—“to help all students reach their potential.” As a result of this conversation, and because of the work of a designated task force, the school developed a program where students—at all achievement levels—were helped to set ambitious personal achievement goals. Anyone who achieved his or her goal was recognized publicly by making the “Personal Best” Honor Role. This evolved into an honor as coveted as much as, if not more than, making the traditional honor role.

Pause, Prompt, and Praise

One strategy that makes effective use of praise is an adaptation of what is commonly referred to as “Pause, Prompt, and

Praise" (see Merrett & Thorpe, 1996). This strategy is best used while students are engaged in a particularly demanding task with which they are having difficulty. During the "pause" phase of the strategy, the teacher asks the students to stop working on the task for a moment. During that time, teacher and student have a brief discussion as to why the student is experiencing difficulty. As a "prompt," the teacher provides the student with some specific suggestion for improving his or her performance. If the student's performance improves as a result of implementing this suggestion, then "praise" is given. The following example depicts the potential positive influence of this strategy in a math class.

Jake was struggling with long division and was becoming discouraged. His frustration must have been obvious because the teacher stopped at his desk and asked him to put down his pencil. When she saw that he was making mistakes mainly because his columns were sloppy, she gave him a piece of graph paper and showed him how to use it to make sure his numbers were lined up properly. He was surprised how well it worked and was thrilled when the next time the teacher stopped at his desk, it was to congratulate him on having completed four problems with no mistakes.

Concrete Symbols of Recognition

Many teachers, who consistently give appropriate verbal recognition for their students' accomplishments, would agree that it is also appropriate to offer their students concrete, symbolic tokens of recognition.

Stickers, awards, coupons, and treats are examples of the types of tokens that are commonly used. As stated in the first generalization in this chapter, these tokens do not necessarily diminish the intrinsic motivation if the tokens are given for accomplishing specific performance goals. The following example illustrates the use of concrete tokens in an informal but effective way.

Darryl had been in the International Baccalaureate program for two years. He loved to learn and was generally successful, but, for some reason, he was feeling burned out this semester. His grades had slipped a little, and his mind was wandering in class. His teacher noticed this. She saw similar symptoms in other students. Fortunately for Darryl, she decided that her "serious" students, like Darryl, needed to lighten up. During the two weeks leading up to a particularly important exam, she systematically gave short practice quizzes. Every time a student scored between 90 and 100 percent, or scored 10 points higher than the previous day, he or she received a prize. The prizes? Smiley face stickers, McDonald's toys, cracker jacks, paper party hats. Darryl and his classmates got into it. Cheers and laughter accompanied every awards ceremony. More important, when the teacher announced the scores for the big examination, academic performance had never been better.



Reinforcing effort can help teach students one of the most valuable lessons they can learn—the harder you try, the more successful you are. In addition, providing recognition for attainment of specific goals not only enhances achievement, but it stimulates motivation.